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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: )  
JAMES G. BLEDSOE ET AL. ) Group Art Unit 1732  
Serial No. 10/062,062 ) Examiner Stefan Staicovici  
Filed: January 31, 2002 ) Attorney Docket 25174A  
For: PROCESS FOR MANUFACTURING A COMPOSITE SHEET

Mail Stop: AF  
Commissioner for Patents, P.O. Box 1450  
Alexandria, VA 22313-1450  
Attention: Board of Appeals and Interferences

REMARKS ACCOMPANYING REQUEST FOR PRE-APPEAL BRIEF CONFERENCE

Honorable Sir:

Claims 9-10, 42 and 46-50 have been allowed.

Pursuant to the Notice published in the Official Gazette on July 12, 2005, review is requested since the Final Rejection contained at least the following errors since the Examiner:

i) failed to enter and consider claims submitted in the June 2006 Response that are supported by the originally filed application; ii) failed to give patentable weight to the recitation of "consisting essentially of" in the claims; and iii) failed to establish a prima facie case of anticipation or obviousness with respect to some of the claims.

Applicants' arguments refer to aspects of the claims that were originally presented in the application as filed, and no new matter has been introduced.

35 USC §112, 1<sup>st</sup> paragraph

Claims 34 - 41 and 43 - 44 stand rejected under §35 U.S.C. §112. The Examiner asserted that the limitation "without the use of heat" did not have support in the original disclosure. Applicants assert, however, that the specification, including the drawings (Fig. 2, in particular) does not show any means for heating the resin, and as such, it is understood by those skilled in the art that there is no heat applied. The specification teaches (see pp. 3-4) that the resin is liquid and is a quick acting material that sets up within about 20 minutes. Those skilled in the art would recognize that such "quick acting" description refers to materials that do not have any heat applied thereto. Also, the specification (see p. 10, line 18) discloses an embodiment of a polyester/epoxy blend resin that flows into holes. Those skilled

in the art would recognize that such material is flowable at ambient temperatures. The specification (see p. 9, line 1) also describes an embodiment where the reinforcement layer hardens. Those skilled in the art would recognize that such material is hardened at ambient temperatures since there is no discussion of heat being applied. In addition, the specification (see p.6, line 11) does describe using heat when necessary for an FRP which is "hot pressed." Those skilled in the art would recognize that when a "hot pressing" step is described as one embodiment, then the other steps are carried out at ambient temperatures. Finally, the specification fully and adequately mentions heat when necessary to distinguish from ambient temperatures. In particular, the specification (see, p. 9, line 27 to p.10, line 13) describes the effects of detrimental heat on the composite sheet.

Contrary to the Examiner's assertions, the invention, as shown in the Figures and described in the specification and claims 34-41 and 43-44, is conveyed in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention. Thus, the originally-filed disclosure would have conveyed to one having ordinary skill in the art the concept of evacuating substantially all air trapped between the reinforcement layer and the reinforcement panel through the perforations without the use of heat, thereby bonding the reinforcement layer to the reinforcement panel.

§35 U.S.C. § 102(b)

Claims 1, 3, 34 and 38 stand rejected under §35 U.S.C. § 102(b) as being anticipated by the Oka U.S. Patent No. 5,446,250.

Novel combinations of process steps that have not been previously performed in order to make a novel high gloss composite sheet are claimed. The novel processes include at least the following steps: i - perforating a reinforcement panel; ii - providing a mold surface onto which a composite sheet may be formed; iii - applying at least one outer coat of material onto the mold surface; iv - applying at least one coat of resin and reinforcement material over the outer coat to form a reinforcement layer; v - applying the perforated reinforcement panel to the reinforcement layer; and either vi-1 - forcing the resin into the perforations formed in the reinforcement panel, thereby bonding the reinforcement layer to the reinforcement panel; or vi-2 - evacuating substantially all air trapped between the combined reinforcement layer and the reinforcement panel through the perforations.

In the June 2006 Response the Applicants explained that claims recite methods of manufacturing a composite sheet that consists essentially of various enumerated steps and that these methods necessarily exclude other elements and other steps. In claims 1 and 34, the

composite sheet consists essentially of three layers: i) an outer coat 16; ii) a reinforcement layer 28; and iii) a perforated reinforcement panel 29.

In contrast, Oka describes a dampening material having at least four layers: i) a gel coating 15; ii) a fiberglass base plate layer 12; iii) a cushioning material 13; and, iv) a restraining layer 14. Oka requires the fourth layer (a restraining layer 14), which is an FRP. The Examiner has failed to give patentable weight to the recitation of "consisting essentially of" in the claims. Therefore, claims 1 and 34 are not anticipated by Oka which requires a "four-layer" material.

In claims 3 and 38, the composite sheet consists essentially of four layers that have different characteristics from the Oka layers. Claim 3 recites: i) an outer coat 16; ii) a reinforcement layer 28; iii) a perforated reinforcement panel 29, and iv) a pervious polymer sheet 62. The Oka fourth layer is a rigid non-pervious restraining layer made of a fiberglass reinforced plastic layer. Thus, even if the June 2006 Response, which if entered would have amended claims 3 and 38 to provide the "pervious" distinction is not entered, claims 3 and 38 do not provide the restraining step or restraining layer that is taught by Oka. If the June 2006 Response is entered, the "pervious" distinction provides an additional patentable distinction over the rigid and non-pervious restraining layer in the Oka materials. Therefore, claims 3 and 38 are not anticipated by Oka which teaches away from the present inventive method by requiring a non-pervious restraining layer.

In the absence of such considerations, the claims 1, 3, 34 and 38 should be allowable.  
35 U.S.C. §103 (a)

The dependent claims 2, 4-8, 11,12, 35-37, 39-41 and 43-44 stand rejected under 35 U.S.C. 103(a) over the Oka reference in view of an assortment of secondary references. Further novel processes are set forth in the dependent claims where the above-described "novel combination of steps" (i.e., steps i to vi-1, or vi-2) includes one or more of the additional steps as set forth in the June 2006 Response at pages 15-18. Each of the following sets of dependent claims is patentably distinct for at least the following reasons:

A) Dependent claims 2 and 35 - 37 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Oka in view of the Weinstein et al. U.S. Patent No. 4,082,882. Claim 2 depends from claim 1 (which recites steps i to vi-1 described above) and additionally recites the step of applying a vacuum to the perforated reinforcement panel. Claims 35 - 37 depend from claim 34 (which recites steps i to vi-2 described above); claim 35 additionally recites the step of applying a vacuum to the perforated reinforcement panel, while claim 36 additionally recites the step of forcing resin into perforation in a reinforcement panel, to bind

the reinforcement layer to the reinforcement panel, and claim 37 additionally recites the step of applying at least one outer coat of material onto the mold surface prior to the resin. Oka places a rigid (and non-pervious) restraining layer on a perforated cushioning layer. Weinstein describes a process where a ribbed roller is used to force the resin through a fiberglass material having no holes therein. As explained in the June 2006 Response, at p. 16, there is no motivation to modify Oka with the vacuum step of Weinstein to meet the invention recited in claims 2 or 35-37.

B) Dependent claims 4 - 6, 8, 39, 40 and 44 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Oka in view of the JP abstract 62-064527. Claims 4 - 6, 39, 40 and 44 additionally recite the step of creating a plurality of tapered holes in the reinforcement panel. Claim 8 recites the step of having an outer coat of material, that when cured, displays substantially no visible sink marks on an exposed surface of the outer coat opposite the tapered holes. The Examiner has admitted that Oka does not teach or suggest tapered holes. The JP abstract teaches the use of two steps that must be carried out in a sequential order: first, heat is applied to a material, and, second, ultrasonic vibration is used to push the melted material into holes in an adjacent material. As explained in the June 2006 Response, at p. 16-17, the JP abstract fails to supply any of the deficiencies of Oka. Rather, the JP abstract teaches away from the present invention by requiring extra steps of heat and ultrasound.

C) Claim 7 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Oka in view of the Tellman et al. U.S. Patent No. 4,655,859 reference. Claim 41 is rejected under 35 U.S.C. §103 as being unpatentable over Oka in view of the JP abstract and further in view of Tellman. Claims 7 and 41 additionally recite the step of perforating by applying at least one roller against a surface of the reinforcement panel, the one roller having a plurality of perforating pins. Tellman teaches the scoring of veneered products with longitudinally extending blades in order to facilitate the drying of the product. As explained in the June 2006 Response, at p. 17, one skilled in the art would not look to the drying step of Tellman as a desired way to wet a perforated material with a resin. There is nothing in Tellman that teaches or suggests using perforating rollers to aid in to wetting of a material. Tellman does not supply any of the deficiencies of the JP abstract or Oka since there is no teaching or suggestion in the combination of the cited references to form holes in a reinforcement panel and to force resin into such holes without the application of external heat.

D) Claims 11-12 and 43 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Oka in view of the Sharp U.S. Patent No. 5,054,645 reference. Claims 11-12

and 43 additionally recite the step of applying at least one outer coat of material onto the mold surface prior to the resin. Sharp teaches the use of resinous columns formed in a multi-layer material for an underground tank. As explained in the June 2006 Response, at p. 17-18, there is no teaching or suggestion in Oka and Sharp to form holes in a reinforcement panel and to force resin into such holes without the application of external heat.

The Examiner's proposed theory that one might have been motivated to combine the five cited references (each of which relies on either additional or different types of processing steps) in an attempt to do what the inventors herein in fact accomplished amounts to speculation and an impermissible hindsight reconstruction of the claimed invention. The Examiner has used the claimed invention as an instruction manual or "template" to piece together isolated disclosures and teachings of the prior art so that the claimed invention in an impermissible attempt to find obvious the claimed novel processes.

Non-Entry of June 2006 Response

No new meaning was given to the claims, nor was any new matter entered by the amendments to the claims. The claims were merely amended to positively recite features that had previously been set forth in several of the originally presented claims. The amended claims, therefore, would not have required any further searching by the Examiner.

Though Applicants believe the claims as previously presented were distinguished over Oka, either alone, or in combination with the secondary references, the proposed versions of the claims in the amendment denied entry by the Examiner would further define over these references. For at least this additional reason, the claims should be allowable. In view of the foregoing arguments, the claims are in condition for allowance. Favorable action is respectfully requested.

Respectfully submitted,



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